

Message

**From:** Taylor, Daniel [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=604369AFE4CE4AE38A870BEC38F43DF3-TAYLOR, DAN]  
**Sent:** 7/23/2020 6:13:20 PM  
**To:** Rovira, Eduardo [Rovira.Eduardo@epa.gov]  
**CC:** Root, Charlie [Root.Charlie@epa.gov]; Nevshehirlian, Stepan [Nevshehirlian.Stepan@epa.gov]  
**Subject:** Blades: Domestic Well in Blades  
**Attachments:** Resident House Location.PNG; Table 7- Inorganics Results In Wells.PNG; Figure 4b- Well locations.PNG

Hey Eduardo,

I wanted to send you a follow up email from our talk. I included the email chain as well from the State so you could have some background.

Essentially, there is a resident who called DNREC complaining about black water staining in his bathroom fixtures. He said this has been an ongoing issue, but thought it got worse since the installation of monitoring wells [Ex. 9 - Wells] (unlikely because the MWs aren't pumping anything). This resident was sampled for PFOA/PFAS compounds in the past, and the results came back 47.7 ppt, therefore the State is not currently providing this resident with a treatment system. As you know, residential wells weren't sampled for anything besides PFOA/PFOS compounds.

I looked at google-maps, and where Site monitoring wells are located, and [Ex. 6 Personal Privacy (PP)]s [Ex. 6 Personal Privacy (PP)] From looking at table 7 of the "Final Site Inspection Report", SIGW-11 and SIGW-12 have: Antimony, Arsenic, Cobalt, Manganese, and Hexavalent Chromium exceeding the RSL (Figure 4b shows the locations of the wells).

This resident wants to speak with someone from EPA, but before I reached out to him, I wanted to be able to provide him answers on what we can or cannot do. I spoke with the State as well, and he is running it up his supervisor to see if they can sample his well, but I wanted to speak with removal to see if this is something removal could go out and sample his well.

I took screenshots of the tables and figures I referenced because the report was too big to attach to an email. Let me know if you need the full report and I can send it to you through One Drive.

Let me know if there is anything else you need.  
Thanks.

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**From:** Galloway, Rick (DNREC) <Rick.Galloway@delaware.gov>  
**Sent:** Thursday, July 23, 2020 10:56 AM  
**To:** O'Loughlin, Connor <oloughlin.connor@epa.gov>  
**Cc:** Taylor, Daniel <taylor.daniel@epa.gov>; Nevshehirlian, Stepan <Nevshehirlian.Stepan@epa.gov>; Bryson, Amy E. (DNREC) <Amy.Bryson@delaware.gov>  
**Subject:** RE: [Ex. 9 Wells]- Domestic Well in Blades

[Ex. 6 Personal Privacy (PP)] wants to talk to EPA. I talked to Dan and he said that he will need to talk to EPA staff/managers but then he will reach out to [Ex. 6 Personal Privacy (PP)] or by tomorrow morning.

[Ex. 6 Personal Privacy (PP)] contact information is- [Ex. 6 Personal Privacy (PP)] Good luck. Let me know how it goes.

Thanks.

Rick Galloway, P.G.  
Hydrologist, Project Manager  
Remediation Section

Dept. Natural Resources and Environmental Control  
391 Lukens Drive  
New Castle 19720-2774

Ph- 302-395-2614  
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**From:** O'Loughlin, Connor [mailto:oloughlin.connor@epa.gov]  
**Sent:** Wednesday, July 22, 2020 5:59 PM  
**To:** Galloway, Rick (DNREC) <Rick.Galloway@delaware.gov>  
**Cc:** Taylor, Daniel <taylor.daniel@epa.gov>; Nevshehirlian, Stepan <Nevshehirlian.Stepan@epa.gov>; Bryson, Amy E. (DNREC) <Amy.Bryson@delaware.gov>  
**Subject:** Ex. 9 Wells -- Domestic Well in Blades

Rick,

The concentration in this well at Ex. 6 Personal Privacy (PP) was 47.7 ppt for PFAS. EPA installed the well Ex.9 - Wells via auger and therefore did not use any drilling fluids during installation. I included our drilling logs for the cluster EPA installed. I don't believe we would have caused any contamination to his well during installation activities and our well development would have removed any issues anyways. The private well Ex. 6 Personal Privacy (PP) had a concentration of 298ppt.

Please let me know if you need any additional information, thank you.

Ex. 6 Personal Privacy (PP)

Access Accepted 6/30/2018

SIGW-11 Shallow Screen: (3-13 feet), TD=14.0 feet, **PFAS (PFOA+PFOS)=38ppt**

0.0-1.0 - Dark gray well-sorted fine SAND, some silt, roots, loose, dry  
1.0-1.8- Medium brownish gray well-sorted fine SAND, some silt, roots, loose, dry  
1.8-6.2 - Light yellowish brown well-sorted fine SAND, some silt, roots, loose, dry, reddish yellow mottling  
6.2- 8.0 - Light yellowish brown well-sorted medium subangular SAND, some silt, loose, wet  
8.0- 11.8 - Light yellowish brown well-sorted medium subangular SAND, some silt, trace well-rounded fine gravel, loose, wet  
11.8-12.0 - Light reddish yellow CLAY, soft, high plasticity, wet  
12.0-14.0 Light reddish yellow CLAY, soft, high plasticity, wet, grades to medium gray  
Bottom of hole at 13.0 feet.

SIGW-12 Intermediate Screen: (60-70 ft), PFAS(PFOA+PFOS)=128.2ppt

0.0-1.0 - Dark gray well-sorted fine SAND, some silt, roots, loose, dry  
1.0-1.8- Medium brownish gray well-sorted fine SAND, some silt, roots, loose, dry  
1.8-6.2 - Light yellowish brown well-sorted fine SAND, some silt, roots, loose, dry, reddish yellow mottling  
6.2- 8.0 - Light yellowish brown well-sorted medium subangular SAND, some silt, loose, wet  
8.0- 11.8 - Light yellowish brown well-sorted medium subangular SAND, some silt, trace well-rounded fine gravel, loose, wet  
11.8-12.0 - Light reddish yellow CLAY, soft, high plasticity, wet  
12.0-17.0 Light reddish yellow CLAY, soft, high plasticity, wet, grades to medium gray  
17.0-17.6 - Dark gray well-sorted fine SAND, some silt, loose, dense, wet  
17.6-18.0 - Light reddish brown well-sorted fine SAND, some silt, dense, wet  
18.0-20.0 - Dark brownish gray CLAY, medium firm, high plasticity, wet

20.0-21.8 - Medium yellowish brown well-sorted very fine to fine SAND, some clay, moderate plasticity, wet  
21.8-22.2 - Very light gray well-sorted fine SAND, some silt, dense, wet  
22.2-25.6 - Very light gray CLAY, soft, high plasticity, wet  
25.6-27.0 - Reddish yellow well-sorted very fine SAND, some silt, dense, wet  
27.0-32.0 - Very light gray well-sorted fine to medium subangular SAND, dense, wet, grades to light yellowish brown  
32.0-34.0 - Poorly-sorted fine to coarse subangular SAND, little to some silt, very dense, wet, interbedded color layers of light grayish brown, light reddish yellow, and dark gray, trace seashell fragments  
34.0-34.8 - Pale yellowish brown poorly-sorted fine to very coarse subangular  
34.8-38.0 - Well-sorted very fine SAND, little to some silt, dense, wet alternating interbedded light brownish gray and dark gray lamination  
38.0-39.6 - Light brownish gray poorly-sorted fine to very coarse subangular to sub rounded SAND, some silt, very dense, wet  
39.6-40.0 - Light yellowish brown poorly-sorted fine to very coarse subangular to sub rounded SAND, some silt, very dense, wet  
40.0-41.0 - Very light gray well-sorted subangular medium SAND, little silt, very dense  
41.0-41.1 - Reddish brown SAND, some clay  
41.1-42.0 - Very light gray well-sorted subangular medium SAND, little silt, very dense  
42.0-43.0 - Medium brownish gray poorly-sorted fine to coarse subangular SAND, some clay, slight plasticity, trace black subangular gravel  
43.0-44.0 - Light brownish gray well-sorted medium subangular SAND, dense, wet  
44.0-46.0 - Light brownish gray poor subangular SAND, little silt, very dense, wet  
Bottom of hole at 46.0 feet.

Connor O'Loughlin P.G.  
Environmental Protection Agency, Region III  
Superfund & Emergency Management Division (SEMD)  
Site Assessment Manager, (3SD12)  
1650 Arch Street,  
Philadelphia, PA 19103-2029  
phone 215-814-3304  
Cell 412-779-0444

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**From:** Galloway, Rick (DNREC) <Rick.Galloway@delaware.gov>

**Sent:** Wednesday, July 22, 2020 4:56 PM

**To:** O'Loughlin, Connor <oloughlin.connor@epa.gov>; Taylor, Daniel <taylor.daniel@epa.gov>; Nevshehirlian, Stepan <Nevshehirlian.Stepan@epa.gov>

**Cc:** Bryson, Amy E. (DNREC) <Amy.Bryson@delaware.gov>

**Subject:** FW: [Ex. 9 Wells] Domestic Well in Blades

Dan, Stepan and Connor,

I wanted to make you aware that [Ex. 6 Personal Privacy (PP)] was planning to install a well on his property, [Ex. 6 Personal Privacy (PP)] replacement reason: "low yield"), Blades, DE. I talked to our Well Permitting folks and offered, out of an abundance of caution, to provide him with filters used for PFAS contamination on his "replacement" well prior to any EPA testing for the RI. Then I found out that he wasn't planning on installing the well due to cost. [Ex. 6 Personal Privacy (PP)] called me and complained that his water had an issue with black water in the bathroom fixtures (see emails below). He said that it started when test wells were installed [Ex.9 - Wells] It appears that EPA installed the wells that he identified as test wells. I am planning on calling him and explaining that the source of the black water is likely manganese and also noting that EPA installed the wells but that they are monitoring wells and not pumping wells. Since the black staining is not related to contamination and the filters would not help with the toilet or shower water color, I am not planning on providing filters. I just wanted to give you a heads up if he decides to contact EPA. I will let you know how the call goes.

I left a message for him today to call me back.

Thanks.

Rick Galloway, P.G.  
Hydrologist, Project Manager  
Remediation Section  
Dept. Natural Resources and Environmental Control  
391 Lukens Drive  
New Castle 19720-2774

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**From:** Galloway, Rick (DNREC)  
**Sent:** Wednesday, July 22, 2020 9:10 AM  
**To:** amy bryson (Amy.Bryson@delaware.gov) <Amy.Bryson@delaware.gov>  
**Subject:** FW: Ex. 9 Wells Domestic Well in Blades

Amy,

It looks like the wells that "increased" the issue with Ex. 6 Personal Privacy (PP) wells were installed by EPA as part of the SI. I am going to talk to Josh a little later this morning to clarify things but if I mention that EPA installed the wells to Ex. 6 Personal Privacy (PP) then he could be calling EPA. I will give you a call later after I talk to Josh to discuss.

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**From:** Kasper, Joshua W. (DNREC)  
**Sent:** Tuesday, July 21, 2020 8:47 PM  
**To:** Galloway, Rick (DNREC) <Rick.Galloway@delaware.gov>  
**Subject:** RE: Ex. 9 Wells Domestic Well in Blades

Hi Rick

It looks like a well nest, GWS-13 (263664) and GWD-13 (263665), was installed Ex. 6 Personal Privacy (PP) property in 2018. See attached. Perhaps these are the wells he's referring to. I recall seeing these and others mentioned in Weston's report, but I could be mistaken.

It looks like another well nest, GWS-10 and GWD-10, was installed farther Ex. 6 Personal Privacy (PP) The DNREC IDs for those are 263667 and 263668.

And sorry if I misspoke re the filters. I assumed that they might be available considering the potential for PFAS, which is what I thought we were dealing with for the proposed well. It was my understanding that we didn't know the depth of his existing well prior to me speaking with him, so we didn't know if the proposed well would be deeper, shallower, or at

the same depth. This is totally your call, but I just wanted you to know my rationale for referring him to you. I'm glad he followed up with you to get it straight from the source.

Thanks and take care

Josh

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**From:** Galloway, Rick (DNREC) <Rick.Galloway@delaware.gov>  
**Sent:** Tuesday, July 21, 2020 4:58 PM  
**To:** Kasper, Joshua W. (DNREC) <Joshua.Kasper@delaware.gov>  
**Subject:** RE: Ex. 9 Wells Domestic Well in Blades

Josh,

I just spoke with Ex. 6 Personal Privacy (PP). He said that his water has had a little bit of black to it but when a "test" well was installed Ex. 9 - Wells it got a lot worse. I am trying to figure what well he may be referring to. I asked him in the address and he didn't know. Do you have any well requests from the public or EPA near Ex. 6 Personal Privacy (PP) property in the last 1-2 years? I told him I would get back to him in a couple days. Thanks.

Ex. 6 Personal Privacy (PP) requested to get the filters to treat the water. As an aside, DNREC-RS has only been providing filters to people with elevated PFAS or in this case where we were not sure if he installed a deeper well and might encounter PFAS. It seems like it could be related to manganese and not to PFAS or to chromium. DNREC-RS is not planning on providing filters at this point for his current well water. If the well was installed by EPA then maybe they would be willing to do something.

Rick Galloway, P.G.  
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**From:** Kasper, Joshua W. (DNREC)  
**Sent:** Friday, July 17, 2020 12:47 PM  
**To:** Pongratz, Alan E. (DNREC) <Alan.Pongratz@delaware.gov>; Rios, Ricardo (DNREC) <Ricardo.Rios@delaware.gov>; Moore, David L. (DNREC) <David.Moore@delaware.gov>; White, David (DNREC) <David.W.White@delaware.gov>  
**Cc:** Silves, Sarah A (DNREC) <Sarah.Silves@delaware.gov>; Whitley, Kayla (DNREC) <Kayla.Whitley@delaware.gov>; Grabowski, Matthew T. (DNREC) <Matthew.Grabowski@delaware.gov>; Galloway, Rick (DNREC) <Rick.Galloway@delaware.gov>  
**Subject:** Re: Ex. 9 Wells -- Domestic Well in Blades

I just spoke with both Mel and Ex. 6 Personal Privacy (PP) about condition #95. Ex. 6 Personal Privacy (PP) reported that he cannot afford a new well. He reported that his current well is 35-ft deep, and that he has problems with black staining on his bathroom fixtures. I told him that the filtration units might still be made available to him regardless of what he does with the proposed well, and that he may also be eligible for future testing by DNREC and (or) EPA. Rick, I provided your number in case he wants to reach out to you to coordinate sampling etc.

Josh

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**From:** Pongratz, Alan E. (DNREC) <[Alan.Pongratz@delaware.gov](mailto:Alan.Pongratz@delaware.gov)>  
**Sent:** Friday, July 17, 2020 12:10 PM  
**To:** Kasper, Joshua W. (DNREC) <[Joshua.Kasper@delaware.gov](mailto:Joshua.Kasper@delaware.gov)>; Rios, Ricardo (DNREC) <[Ricardo.Rios@delaware.gov](mailto:Ricardo.Rios@delaware.gov)>; Moore, David L. (DNREC) <[David.Moore@delaware.gov](mailto:David.Moore@delaware.gov)>; White, David (DNREC) <[David.W.White@delaware.gov](mailto:David.W.White@delaware.gov)>  
**Cc:** Silves, Sarah A (DNREC) <[Sarah.Silves@delaware.gov](mailto:Sarah.Silves@delaware.gov)>; Whitley, Kayla (DNREC) <[Kayla.Whitley@delaware.gov](mailto:Kayla.Whitley@delaware.gov)>; Grabowski, Matthew T. (DNREC) <[Matthew.Grabowski@delaware.gov](mailto:Matthew.Grabowski@delaware.gov)>; Galloway, Rick (DNREC) <[Rick.Galloway@delaware.gov](mailto:Rick.Galloway@delaware.gov)>  
**Subject:** RE: Ex. 9 Wells Domestic Well in Blades

Hey Josh,

I would suggest to reaching out to Mel's Well for contact information for Ex. 6 Personal Privacy (PP)

Mel's Wells email is;

[melvyn.miller@yahoo.com](mailto:melvyn.miller@yahoo.com)

Or you can reach out to him at 302-393-9017.

I would prefer you have explained your review in detail, before we apply the condition of concern, to prevent an oversight.

Alan Pongratz  
Environmental Control Supervisor  
302-739-9944  
[alan.pongratz@delaware.gov](mailto:alan.pongratz@delaware.gov)



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**From:** Kasper, Joshua W. (DNREC) <[Joshua.Kasper@delaware.gov](mailto:Joshua.Kasper@delaware.gov)>  
**Sent:** Friday, July 17, 2020 11:20 AM  
**To:** Rios, Ricardo (DNREC) <[Ricardo.Rios@delaware.gov](mailto:Ricardo.Rios@delaware.gov)>; Moore, David L. (DNREC) <[David.Moore@delaware.gov](mailto:David.Moore@delaware.gov)>; White, David (DNREC) <[David.W.White@delaware.gov](mailto:David.W.White@delaware.gov)>  
**Cc:** Pongratz, Alan E. (DNREC) <[Alan.Pongratz@delaware.gov](mailto:Alan.Pongratz@delaware.gov)>; Silves, Sarah A (DNREC) <[Sarah.Silves@delaware.gov](mailto:Sarah.Silves@delaware.gov)>; Whitley, Kayla (DNREC) <[Kayla.Whitley@delaware.gov](mailto:Kayla.Whitley@delaware.gov)>; Grabowski, Matthew T. (DNREC) <[Matthew.Grabowski@delaware.gov](mailto:Matthew.Grabowski@delaware.gov)>; Galloway, Rick (DNREC) <[Rick.Galloway@delaware.gov](mailto:Rick.Galloway@delaware.gov)>  
**Subject:** RE: Ex. 9 Wells Domestic Well in Blades

I was planning to reach out to Ex. 6 Personal Privacy (PP) to discuss condition #95, but I just noticed that neither a telephone number nor an e-mail address were provided on the permit application. If someone could please relay this condition to Mel's Wells it would be greatly appreciated.

Thanks  
Josh

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**From:** Kasper, Joshua W. (DNREC)  
**Sent:** Friday, July 17, 2020 11:12 AM  
**To:** Rios, Ricardo (DNREC) <[Ricardo.Rios@delaware.gov](mailto:Ricardo.Rios@delaware.gov)>; Moore, David L. (DNREC) <[David.Moore@delaware.gov](mailto:David.Moore@delaware.gov)>; White, David (DNREC) <[David.W.White@delaware.gov](mailto:David.W.White@delaware.gov)>

**Cc:** Pongratz, Alan E. (DNREC) <Alan.Pongratz@delaware.gov>; Silves, Sarah A (DNREC) <Sarah.Silves@delaware.gov>; Whitley, Kayla (DNREC) <Kayla.Whitley@delaware.gov>; Grabowski, Matthew T. (DNREC) <Matthew.Grabowski@delaware.gov>; Galloway, Rick (DNREC) <Rick.Galloway@delaware.gov>  
**Subject:** Ex. 9 Wells Domestic Well in Blades

A hydrogeologic review of the above-referenced well permit application was completed in collaboration with Rick Galloway of the DNREC's Remediation Section (DNREC-RS). Based on this joint review, the following permit condition is recommended:

*Site-specific condition #95: The proposed domestic well is located in an area of Blades, DE, where per- and polyfluoroalkyl substances (PFAS), namely perfluorooctanoic acid (PFOA) and perfluorooctanesulfonate (PFOS), have been detected in groundwater from the surficial aquifer at concentrations exceeding the U.S. EPA Health Advisory of 70 parts per trillion (ppt). Since the groundwater conditions of the new well are unknown and the well is close to PFAS-impacted wells, out of an abundance of caution the DNREC Remediation Section (DNREC-RS) has made 2 Aquasana filter systems available to the well owner after the new well is installed. One can be placed on the kitchen sink and one on the bathroom sink. These filters will provide approximately 6 months of protection. These systems can be picked up in the Blades Town Office the week of 7/20/20. EPA or DNREC will likely be testing private wells in your area within the next 6 months for PFAS. Please consider providing access to test your water for PFAS. Please contact Rick Galloway of the DNREC-RS at [rick.galloway@delaware.gov](mailto:rick.galloway@delaware.gov) or (302) 395-2614 with any questions.*

Application Ex. 9 Wells is for a replacement domestic well at Ex. 6 Personal Privacy (PP) (replacement reason: "low yield"). The proposed screen interval (60 to 70 ft bls) indicates that the well will be completed in the surficial aquifer. The proposed capacity of the 4-inch diameter well is 10 gpm.

The application was flagged for hydrogeologic review due to Procino Plating (DE-0344), Ex. 6 Personal Privacy (PP)/ ex. 9 - Wells Chromium is the primary contaminant of concern at DE-0344. Groundwater-flow direction at the site is generally toward the south, placing the proposed well in somewhat of a cross-gradient position. Per Rick Galloway of the DNREC-RS, there is no indication that contamination has moved to the southwest (in the direction of the proposed well).

Rick Galloway noted that the proposed well is in the "Blades Groundwater" investigation area, where per- and polyfluoroalkyl substances (PFAS), namely perfluorooctanoic acid (PFOA) and perfluorooctanesulfonate (PFOS), have been detected in groundwater from the surficial aquifer at concentrations exceeding the U.S. EPA Health Advisory of 70 parts per trillion (ppt). The latest results from this investigation are summarized in a June 2019 Final Site Inspection Report prepared by Weston Solutions. The existing well at Ex. 6 Personal Privacy (PP) Ex.9 - Wells was sampled as part of this investigation, and the combined PFOA+PFOS concentration was 47.7 parts per trillion (ppt) on 2/27/18. However, Ex.9 - Wells had a combined PFOA+PFOS concentration of 298 ppt based on a sample collected on 2/16/18.

Based on this joint review the well may be completed as proposed; site-specific condition #95 has been drafted in collaboration with Rick Galloway of the DNREC-RS to address PFAS concerns in this area.

Please contact me if you have any questions regarding this e-mail.

JK